

PATENT COOPERATION TREATY

PCT



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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

10/532478

Applicant's or agent's file reference K1803 PCT		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/JP 03/13750	International filing date (day/month/year) 28.10.2003	Priority date (day/month/year) 21.11.2002	
International Patent Classification (IPC) or both national classification and IPC C07D285/08			
Applicant SUMITOMO CHEMICAL COMPANY, LIMITED et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 18.05.2004		Date of completion of this report 04.04.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Fink, D Telephone No. +49 89 2399-8701 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/JP 03/13750

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-42 as originally filed

Claims, Numbers

1-8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
4. The amendments have resulted in the cancellation of:
- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-8
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-8
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The following documents (D) are considered to be relevant:

D1: DE-A-3030661;

D2: EP-A-0273534;

D3: EP-A-0410551;

1. NOVELTY (Article 33(2) PCT):

The present application satisfies the criterion set forth in Article 33(2) PCT because the subject-matter of **claims 1-8** is new in respect of prior art as defined in the regulations (Rule 64(1)-(3) PCT):

There is an overlap between the range of compounds as defined in claim 5 of **D1** and the compounds of the present **claims 1-3**.

However, as the document **D1** does not specifically disclose 1,2,4-thiadiazole derivatives having a propargyloxy group at their *3-position* and a cycloalkyl group at their *5-position*, the compounds of the present **claims 1-3** may be considered to represent a **novel selection** from the compounds of **D1**.

The compounds of the present claim 1 differ from the compounds of the prior art **D2** (cf., claim 1) in that they have an **alkynyloxy** group at the 3-position (cf., the present R^1 -O- group and the group R , as defined in **D2**) and from the compounds of the prior art **D3** (cf., claim 1) in that they are 1,2,4-thiadiazole derivatives rather than 1,3,4-thiadiazole derivatives.

2. INVENTIVE STEP (Article 33(3) PCT):

The present application does not satisfy the criterion set forth in Article 33(3) PCT because the subject-matter of **claims 1-8** does not involve an inventive step (Rule 65(1)(2) PCT):

- 2.1. Document **D1** - which represents the **closest prior art** - teaches (cf., claim 5) propargyloxy substituted 5-membered hetero aromatic rings containing an oxygen or a sulfur atom and additionally 1 to 3 nitrogen atoms which may be substituted with a cycloalkyl group.
The compounds of **D1** are also said to be useful to *control arthropod pests* (cf., page 24, lines 1-4: "...höher als die Wirkung der Einzelkomponenten...").
- 2.2. The corresponding compounds of the present **claims 1-3** are therefore considered to represent a **novel selection** from the compounds of claim 5 of **D1**.
- 2.3. Such a selection, however, is only considered to involve an inventive step, if the compounds selected possess some **unexpected advantages** with respect to the range of compounds they are selected from (cf. WIPO: PCT INTERNATIONAL PRELIMINARY EXAMINATION GUIDELINES ; 29/10/1998, Chapter IV, items 8.8(C1)(iv) and 8.8(C2)(ii)).
Since at present no such properties are evident, it is considered that the compounds of the present **claims 1-3** do not satisfy the criteria of Article 33(3) PCT.
- 2.4. The compounds of the present dependent **claims 4** (A^1 is C_1 - C_2 alkylene) and **5** (R^1 is 2-butynyl or 2-pentynyl) have to be regarded as obvious alternatives of the compounds as defined in claim 5 of **D1**.

3. INDUSTRIAL APPLICABILITY (Article 33(4) PCT):

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The subject-matter of **claims 1-8** of the present application concerns chemical compounds, an (arthropod controlling) composition, a method for controlling arthropod pests and the use of a chemical compound in an arthropod controlling composition and is therefore considered to be industrial applicable in the sense of Article 33(4) PCT.

4. MISCELLANEOUS:

The documents **D1 - D3** should have been cited (Rule 5.1(a)(ii) PCT).